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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,260	06/25/2002	Manfred Weuthen	C 2064 PCT/US	5106

23657 7590 03/31/2008  
COGNIS CORPORATION  
PATENT DEPARTMENT  
300 BROOKSIDE AVENUE  
AMBLER, PA 19002

EXAMINER
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OGDEN JR, NECHOLUS

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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03/31/2008

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MANFRED WEUTHEN and BERND FABRY

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Appeal 2008-1281  
Application 10/088,260  
Technology Center 1700

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Decided: March 31, 2008

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Before CHUNG K. PAK, CHARLES F. WARREN, and  
CATHERINE Q. TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

1 Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 11-13, 15-23 and 25-30. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

## I. BACKGROUND

The invention relates to the use of a non-enzymatic protein or a derivative thereof as a softening agent for use in a detergent tablet. Claim 11 is illustrative of the subject matter on appeal:

11. A detergent tablet comprising:

- (a) a surfactant component selected from the group consisting of an anionic surfactant, a nonionic surfactant, an amphoteric surfactant, and mixtures thereof;
- (b) a non-enzymatic protein and/or derivative thereof in an amount of from 0.1% to 10% by weight, based on the weight of the tablet;
- (c) a zeolite; and
- (d) a disintegrating agent.

Appellants request review of the sole rejection maintained by the Examiner, namely, the rejection of claims 11-13, 15-23 and 25-30 under 35 U.S.C. § 103(a) over U.S. Patent No. 6,051,544, issued April 18, 2000 to Lang et al. (“Lang”).

In assessing the merits of the 35 U.S.C. § 103(a) rejection, we first focus on representative claim 11. Appellants have not separately argued independent claims 11 and 21. (App. Br. 6-11). Next, we address dependent claims 12-13, 15-19, 22-23 and 25-29. Since Appellants arguments regarding dependent claims 12-13, 15-19, 22-23 and 25-29 are similar in scope, we address the merits of these dependent claims under a single heading. Finally, we separately address dependent claims 20 and 30.

## II. DISCUSSION

### *Independent claims 11 and 21*

Appellants argue that Lang does not teach a disintegrating agent as claimed. (App. Br. 7-8). The Examiner responds that Lang teaches specific compounds that are “disintegrating agents” as claimed. (Ans. 4-5).

Appellants also argue that Lang does not teach the non-enzymatic proteins as claimed. (App. Br. 9). The Examiner relies upon “fatty acid protein condensation products” taught by Lang as the “non-enzymatic proteins” claimed. (Ans. 3, 8).

An issue on appeal arising from the contentions of Appellants and the Examiner is: Have the Appellants shown that the Examiner reversibly erred in finding Lang would have suggested to one of ordinary skill in the art a detergent tablet including a “disintegrating agent” and a “non-enzymatic protein and/or derivative thereof” as required by parts (b) and (d) of claim 11? We answer this question in the negative.

Applying the relevant legal principles to the evidence in the record of this appeal, we determine that the Examiner did not reversibly err in finding Lang would have suggested that one of ordinary skill in the art use the claimed components in a detergent tablet.

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 (“While the sequence of these

questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”).

First, we address whether Lang teaches or suggests the use of a disintegrating agent in a detergent tablet. We note that claim 11 calls for a “disintegrating agent” broadly, the term referring to a genus of substances. (Specification, para. bridging 10 and 11). Appellants’ Specification lists, among several other “preferred disintegrators,” the following substances: celluloses and derivatives thereof (carboxymethyl cellulose), bentonites and polyethylene glycols. (Spec. 11, ll. 5-12).

Lang teaches these same substances (polyethylene glycols, “celluloses and derivatives thereof, such as carboxymethylcellulose” and bentonites) as additives suitable for mixing with secondary alkanesulfonates (SAS). (Lang, col. 2, ll. 45-54).

Even though Lang does not expressly teach that the “additives” function as “disintegrating agents,” the fact remains that Lang describes compounds which Appellants’ describe in their Specification as “disintegrating agents.” Reading the claim as broadly as is reasonable and consistent with the Specification, we determine that any one of the enunciated substances Appellants list in their Specification as a “disintegrating agent” would be within the scope of part (d) of claim 11. The polyethylene glycols, “celluloses and derivatives thereof, such as carboxymethylcellulose” and bentonites described by Lang are such compounds.

Appellants’ contention that the “additives” of Lang do not function as disintegrating agents is not persuasive. (App. Br. 8). The claim is directed to a detergent tablet including a number of compounds. Lang suggests the

use of compounds within the scope of the range of compounds encompassed by Appellants' use of the generic phrase "disintegrating agent." Moreover, a chemical compound and its properties are inseparable.

As further evidence of Lang teaching or suggesting a disintegrating agent, we note that among other "cleaning auxiliaries which can be used in the cleaning-product compositions of [Lang]," Lang lists suspension agents, solubilizers and dispersants. (Lang, col. 8, ll. 37-50). Each of these items is known to one of ordinary skill in the art to accelerate disintegration on contact with water. Therefore, either the cleaning auxiliaries or the additives taught by Lang fall directly within the scope of the claimed "disintegrating agents."

Thus, we find that Lang would have taught or suggested to one of ordinary skill in the art to add a disintegrating agent as claimed to a detergent tablet.

Next we address whether Lang would have taught or suggested to one of ordinary skill in the art the use of "a non-enzymatic protein and/or derivative thereof" as recited in claim 11 in a detergent tablet.

Appellants' Specification lists protein hydrolyzates and protein fatty acid condensates as preferable non-enzymatic proteins or derivatives. (Spec. 8, l. 29 – 9, l. 1). The Examiner finds that Lang teaches the use of "fatty acid-protein condensation products." (Ans. 3; *see also* Lang. col. 4, ll. 56-61). Appellants provide no arguments disputing this finding. The fatty acid-protein condensation products taught by Lang fall directly within the scope of the claimed "non-enzymatic proteins or derivatives."

Lang also teaches that "protein hydrolyzates" are "[f]urther suitable nonionic surfactants." (Lang, col. 6, ll. 38-45). Appellants argue that

Appellants' Specification requires that "the protein hydrolyzates useful in the present invention are not surfactants." (App. Br. 9). The relevant portion of Appellants' Specification recites that "[a]lthough protein hydrolyzates are not surfactants in the true sense insofar as they lack a hydrophobic residue, they are often used for formulating surface-active compositions by virtue of their dispersing properties." (Spec. 9, ll. 13-15). We note that neither the claim language nor Appellants' Specification precludes the non-enzymatic protein being a surfactant. Rather, we find that Appellants' Specification suggests that one of ordinary skill in the art would reasonably refer to suitable non-enzymatic proteins, particularly protein hydrolyzates, as "surfactants" due to their dispersing properties.

As such, Lang clearly teaches using a non-enzymatic protein as claimed in claim 11 in a detergent tablet.

Where Appellants argue that "[t]he detergent tablets of the present invention do not contain cationic surfactants" (App. Br. 9), they seem to suggest that the limitation of claims 20 and 30, i.e., that the detergent composition is free of cationic surfactants, is properly incorporated into the broadest claim 11. We decline to read the limitation of claims 20 and 30 into claim 11. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) ("[T]he presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim."). We separately address the merits of dependent claims 20 and 30 below.

Thus, we conclude that it would have been obvious to one of ordinary skill in the art, provided the teachings of Lang, to combine the elements of claim 11 in a detergent tablet.

*Dependent claims 12-13, 15-19, 22-23 and 25-29*

Appellants have provided separate arguments for dependent claims 12 and 22, 13 and 23, 15 and 25, 16 and 26, 17 and 27, 18 and 28 and 19 and 29. (App. Br. 11-12). However, dependent claims 12-13, 15-19, 22-23 and 25-29 are similar in that they are directed to various concentrations of the surfactant component, non-enzymatic protein, zeolite and disintegrating agent of claim 11.

Appellants argue that Lang is silent or provides no teaching or suggestion regarding the various concentration recitations in dependent claims 12-13, 15-19, 22-23 and 25-29. (App. Br. 11-12). The Examiner identifies where the proportions of the claimed invention are disclosed. (Ans. 8).

Specifically, we find that Lang teaches that “the total concentration of surfactants, including the sec. alkanesulfonate...can be from 1% to 99%” in a cleaning composition, which encompasses the claimed ranges for a surfactant component of 1-50% and 5-25% recited in claims 12 and 22 and 13 and 23, respectively. (Lang, col. 3, ll. 17-19). Lang also teaches that zeolites can be added as a builder (Lang, col. 7, ll. 41-57) “in proportions of from about 5% to about 80% by weight in the detergent and cleaning product compositions,” which encompasses the claimed ranges for a zeolite of 10-60% and 20-40% recited in claims 16 and 26 and 17 and 27, respectively. (Lang, col. 7, ll. 26-28). Since the non-enzymatic proteins in Lang are recited as surfactants, Lang discloses the non-enzymatic proteins in a concentration within the total surfactant concentration of from 1% to 99%, which also encompasses the claimed range for a non-enzymatic protein of 1-8% recited in claims 15 and 25. (Lang, col. 3, ll. 17-19).



The Federal Circuit has held that “a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness.” *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003). Appellants have not demonstrated any criticality or unexpected results regarding the claimed ranges. Thus, the claimed ranges of surfactant components in claims 12, 13, 22 and 23, zeolite in claims 16, 17, 26 and 27 and non-enzymatic proteins of claims 15 and 25 would have been obvious to one of ordinary skill in the art at the time of the invention based on the teachings of Lang.

Since the disintegrating agents in Lang are recited as additives, Lang teaches that the disintegrating agents “are used in a concentration of from 0.1 to 10%...based on sec. alkanesulfonate.” (Lang, col. 3, ll. 1-3)(emphasis added). Lang also teaches that “the total concentration of surfactants, including the sec. alkanesulfonate...can be from 1% to 99%” in a cleaning composition. (Lang, col. 3, ll. 17-19)(emphasis added). Thus, we find that Lang teaches a concentration of disintegrating agent being 0.001% to 9.9% of the *total cleaning composition*, which overlaps the claimed ranges of 0.1-25% and 1-20% found in claims 18 and 28 and 19 and 29, respectively.

The Federal Circuit has recognized that a “claimed invention is rendered prima facie obvious by the teachings of a prior art reference that discloses a range that touches the range recited in the claim.” *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997)(citing *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974)). Thus, the claimed ranges of disintegrating agent in claims 18, 19, 28 and 29 would have been obvious to one of ordinary skill in the art.

Thus, Appellants have not shown that the Examiner reversibly erred in finding Lang would have suggested to one of ordinary skill in the art to use the claimed components in the various concentrations recited in claims 12-13, 15-19, 22-23 and 25-29.

*Dependent claims 20 and 30*

We now address Appellants' separate arguments regarding dependent claims 20 and 30. Dependent claims 20 and 30 are directed to the detergent tablet being "free of cationic surfactants."

Lang teaches that "[i]n special cases, the detergent and cleaning compositions may also contain cationic surfactants." (Lang, col. 7, ll. 8-9). Because the teaching of Lang is optional, Lang ultimately teaches both conditions where cationic surfactants are incorporated into a detergent or cleaning composition and where a detergent or cleaning composition is free of cationic surfactants. Thus, based on the teachings of Lang, a detergent tablet that is free of cationic surfactant would have been obvious to one of ordinary skill in the art.

Thus, Appellants have not shown that the Examiner reversibly erred in finding Lang would have suggested to one of ordinary skill in the art to provide a detergent tablet without a cationic surfactant as recited in claims 20 and 30.

### III. CONCLUSION

The totality of the evidence weighs in favor of a conclusion of obviousness. The Examiner did not reversibly err in rejecting claims 11-13, 15-23 and 25-30 under 35 U.S.C. § 103(a) over Lang. Accordingly, we sustain the Examiner's rejection under 35 U.S.C. § 103(a).

### IV. DECISION

Appeal 2008-1281  
Application 10/088,260

The decision of the Examiner is affirmed.

V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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COGNIS CORPORATION  
PATENT DEPARTMENT  
300 BROOKSIDE AVENUE  
AMBLER, PA 19002